Name:

at1113exam: Expand, factor, and solve quadratics (v202)

1. Expand the following expression into standard form.

$$(7x + 9)(8x - 5)$$

$56x^2 - 35x + 72x - 45$

$56x^2 + 37x - 45$

2. Expand the following expression into standard form.

$$(4x + 7)^2$$

$16x^2 + 28x + 28x + 49$

$16x^2 + 56x + 49$

3. Expand the following expression into standard form.

$$(8x + 3)(8x - 3)$$

$64x^2 - 24x + 24x - 9$

$64x^2 - 9$

4. Solve the equation.

$$(5x + 4)(8x - 7) = 0$$

$x = \frac{-4}{5}$ $\quad$ $x = \frac{7}{8}$

5. Solve the equation.

$$7x^2 - 12x + 3 \;=\; 2x^2 - 3x + 5$$

$$5x^2 - 9x - 2 = 0$$
$$(5x + 1)(x - 2) = 0$$
$$x = \frac{-1}{5} \qquad x = 2$$

6. Solve the equation with factoring by grouping.

$$8x^2 - 12x + 10x - 15 \;=\; 0$$

$$(4x + 5)(2x - 3) = 0$$
$$x = \frac{-5}{4} \qquad x = \frac{3}{2}$$

7. Factor the expression.

$$x^2 - 9x + 14$$

$$(x - 2)(x - 7)$$

8. Factor the expression.

$$25x^2 - 36$$

$$(5x + 6)(5x - 6)$$